C. Subbasin Water Quality Concerns & Status

There are twenty-four (24) water body segments in the Pend Oreille and Clark Fork basins that are listed as water quality limited on the state's 1996 303(d) list. Nine (9) are in the Clark Fork hydrologic unit and fifteen (15) are in the Pend Oreille hydrologic unit (Tables 3 and 4). Most segments are listed for sediment pollution, many of which are also listed for flow, habitat or thermal problems. The exceptions being the Clark Fork River (metals), Pend Oreille Lake (threatened), and Cocolalla Lake (nutrients, dissolved oxygen). The Pack River, is listed for sediment, nutrients, dissolved oxygen, pathogens, and pesticides. The Pend Oreille River is listed for sediment, thermal modification and flow.

It is DEQ's position that habitat and flow alterations, while they may adversely affect beneficial uses, are not pollutants under Section 303(d) of the CWA, and therefore, TMDLs will not be developed to address habitat and flow alterations as pollutants.

Spirit Lake, Brickel Creek and Blanchard Lake drainages are also in the Pend Oreille hydrologic unit however, they are not part of the Pend Oreille/Clark Fork watersheds and will not be addressed in this document. These two watersheds are closely associated with the Rathdrum Aquifer and are separated from each other and from the Spokane River basin to the south by several east-west running ridges. These listed waters will be addressed in the Upper Coeur d'Alene problem assessment.

Table 3. Clark Fork Watershed Water Quality Limited (303(d) Listed) Waters

Water Body HUC #17010213	Boundaries	Pollutants	First Listed	Source
Clark Fork River	ID-MT border to PDO Lake	metals	1994	public comment
Lightning Creek	Quartz Cr. to mouth	sediment, flow, habitat alteration	1994	305(b) report
East Fork Lightning Creek	headwaters to mouth	sediment, flow, habitat alteration	1994	305(b) report
Rattle Creek	headwaters to mouth	sediment, flow, habitat alteration	1994	305(b) report
Wellington Creek	falls to mouth	sediment, flow	1994	305(b) report
Porcupine Creek	headwaters to mouth	sediment, flow, habitat alteration	1994	305(b) report
Spring Creek	headwaters to mouth	sediment	1994	305(b) report
Twin Creek	headwaters to mouth	sediment, nutrients	1994	305(b) report
Johnson Creek	headwaters to mouth	sediment, flow, habitat alteration	1994	305(b) report

The 305(b) report is a DEQ issued biannual report on the state's water quality.

Table 4. Pend Oreille Watershed Water Quality Limited (303(d) Listed) Waters

Waterbody HUC #17010214	Boundaries	Pollutants	First Listed	Source
Pend Oreille Lake	unknown	threatened (nutrients, metals)	1994	public comment
Granite Creek	headwaters to mouth	sediment	1994	SSOC-"s/t" for CWB & SS
Gold Creek	headwaters to mouth	sediment, habitat alteration	1994	SSOC-"s/t" for CWB & SS
Pack River	Hwy 95 to mouth	sediment, nutrients, DO, habitat alteration, pathogens, pesticides	1994	305(b) report SSOC-"s/t" for WWB, AWS, PCR, SCR, "p" for CWB, SS, DWS
Caribou Creek	headwaters to mouth	sediment	1994	305(b) report
Grouse Creek	unknown	sediment	1994	public comment
North Fork Grouse Creek	unknown	sediment	1994	USFS
Trestle Creek	unknown	unknown	1994	USFS
Pend Oreille River	lake to ID-WA border	sediment, flow, thermal modification	1994	305(b) report
Cocolalla Lake	unknown	nutrients, DO	1994	305(b) report SSOC-"s/t" for DWS, CWB, PCR, "p" for SS, WWB
Cocolalla Creek	headwaters to Cocolalla Lake	sediment, thermal modification	1994	305(b) report SSOC-"s/t" for WWB, "p" for CWB SS
Cocolalla Creek	Cocolalla Lake to mouth	sediment, thermal modification	1994	305(b) report SSOC-"p" for CWB
Fish Creek	headwaters to mouth	sediment, pathogens, thermal modification	1994	305(b) report
Hoodoo Creek	headwaters to Hoodoo Lake	sediment, thermal modification	1994	305(b) report
Hoodoo Creek	Hoodoo Lake to mouth	sediment, thermal modification	1994	305(b) report

DWS=domestic water supply, AWS=agricultural water supply, CWB=cold water biota, WWB=warm water biota, SS=salmonid spawning, PCR=primary contact recreation, SCR=secondary contact recreation, SSOC=stream segment of concern, "s/t"=supported but threatened, "p"=partially supported, 305(b) report=a biannual DEQ report on the status of water quality in the state.

2. Applicable Surface Water Quality Standards

Surface waters in Idaho are protected by a set of rules called the "Water Quality Standards and Wastewater Treatment Requirements" which are a part of the Administrative Rules of the Department of Health and Welfare, Volume 16, Title 01, Chapter 02. These rules protect "beneficial uses" of the surface waters of the state. The beneficial uses of surface water that Idaho protects with these rules are found under Idaho Administrative Procedures Act (IDAPA) 16.01.02.100. These uses are as follows:

Water Supply

(1) Agricultural: waters which are suitable or intended to be made suitable for the irrigation of crops or as drinking water for livestock;

(2) Domestic: waters which are suitable or intended to be made suitable for drinking water supplies;

(3) Industrial: waters which are suitable or intended to be made suitable for industrial water supplies. This use applies to all surface waters of the state.

Aquatic Life

(1) Cold water biota: waters which are suitable or intended to be made suitable for protection and maintenance of viable communities of aquatic organisms and populations of significant aquatic species which have optimal growing temperatures below eighteen (18) degrees C.

(2) Warm water biota: waters which are suitable or intended to be made suitable for protection and maintenance of viable communities of aquatic organisms and populations of significant aquatic species which have optimal growing temperatures above eighteen (18) degrees C.

(3) Salmonid spawning: waters which provide or could provide a habitat for active self-propagating populations of salmonid fishes.

Recreation

(1) Primary contact recreation: surface waters which are suitable or intended to be made suitable for prolonged and intimate contact by humans or for recreational activities when the ingestion of small quantities of water is likely to occur. Such waters include, but are not restricted to, those used for swimming, water skiing, or skin diving.

(2) Secondary contact recreation: surface waters which are suitable or intended to be made suitable for recreational uses on or about the water and which are not included in the primary contact category. These waters may be used for fishing, boating, wading, and other activities where ingestion of raw water is not probable.

Wildlife Habitats

Waters which are suitable or intended to be suitable for wildlife habitats. This use applies to all surface waters of the state.

Aesthetics

This use applies to all surface waters of the state.

These beneficial uses are protected by a set of criteria, which include *narrative* criteria for sediment and nutrients, and *numeric* criteria for toxic substances, fecal coliform bacteria, dissolved oxygen, pH, chlorine, dissolved gas, ammonia, temperature and turbidity. Narrative criteria fall under the category of general criteria, which apply to all surface waters regardless of use classification.

Narrative criteria for excess nutrients states that: "Surface waters of the state shall be free from excess nutrients that can cause visible slime growths or other aquatic growths impairing designated beneficial uses."

Narrative criteria for sediment states that: "Sediment shall not exceed quantities specified in Section 250, or, in the absence of specific sediment criteria, quantities which impair designated beneficial uses. Determinations of impairment shall be based on water quality monitoring and surveillance and the information utilized as described in Subsection 350.02.b. [At the present time Section 250 does not address sediment, and Section 350 describes how the nonpoint source rules are to be implemented.]

The Clean Water Act requires all states to designate which beneficial uses surface waters support. Currently, Idaho has only designated beneficial uses for a few streams, rivers and lakes in the state. If a water has designated beneficial uses, numeric criteria specific to those uses apply to the water as a minimum requirement. Undesignated waters are protected for their existing beneficial uses, cold water biota and primary and secondary contact recreation. The applicable numeric criteria then applies to those uses. Seven of the twenty-four listed waters in the Pend Oreille/Clark Fork subbasin have designated beneficial uses (Table 5). For a discussion on how beneficial uses are determined see section C.4. "Status of Beneficial Uses".

Table 5. Designated Beneficial Uses

WQS Map Code	Waters	Designated Uses
PB-10P	Clark Fork River - ID/MT border to Pend Oreille Lake	DWS, AWS, IWS, CWB, SS, PCR, SCR
PB-110P	Lightning Creek - source to mouth	DWS, AWS, IWS, CWB, SS, PCR, SCR
PB-20P	Pend Oreille Lake	DWS, AWS, IWS, CWB, SS, PCR, SCR
PB-210P	Pack River - source to mouth	DWS, AWS, IWS, CWB, SS, PCR, SCR
PB-220P	Trestle Creek - source to mouth	IWS, CWB, SS, SCR
PB-30P	Pend Oreille River - Pend Oreille Lake to ID/WA border	DWS, AWS, IWS, CWB, PCR, SCR
PB-310P	Cocolalla Lake and Outlet - to Pend Oreille River	DWS, AWS, IWS, CWB, PCR, SCR

DWS=domestic water supply, AWS=agricultural water supply, IWS=industrial water supply, CWB=cold water biota, WWB=warm water biota, SS=salmonid spawning, PCR=primary contact recreation, SCR=secondary contact recreation

3. Summary & Analysis of Existing Water Quality Data

Data used in these water quality analyses were obtained from a variety of sources such as, Idaho DEQ's Beneficial Use Reconnaissance Project, the U.S. Forest Service, Idaho Fish and Game, Idaho Department of Land's Cumulative Watershed Effects Analysis, Washington Water Power (Avista), Montana DEQ, and others. Refer to the individual sub-watershed sections of this report for site specific water quality data and analysis.

4. Status of Beneficial Uses

The Idaho Water Quality Standards under IDAPA 16.01.02.053 establishes that DEQ shall use the Waterbody Assessment Guidance (IDHW 1996) as a guide to determine the support status of beneficial uses in each waterbody. Results of the application of this guidance to wadable streams are shown in Table 6. Based upon the Waterbody Assessment Guidance results Caribou Creek and Granite Creek which were on the draft 1998 303(d) list are determined to be fully supporting their beneficial uses. The Waterbody Assessment Guidance uses Reconnaissance data to determine support status. As part of this analysis a macrobiotic invertebrate score and habitat index score are calculated. Based upon these scores, fish data and other information, the support status of the stream is determined. In each problem assessment these scores are presented under the "Existing Water Quality Data" sections.

The index scores are rated as follows:

1) For cold water biota:

MBI scores > 3.5 = full support
from 3.5. 2.5 = needs verification
and < 2.5 = not full support

HI scores ≥100 = full support

from 65-99 = needs verification
and < 64 = not full support

2) For salmonid spawning:

3 age classes = full support
2 age classes + HI score of ≥73 = full support

3) For primary contact recreation:

it exists if flow is ≥ 5 cfs
must meet bacteria water quality standard
if no bacteria data then support status defaults to CWB support call
if CWB is not full support then PCR is "not assessed"

Generally, if one index score is not full support then the entire stream is not full support. There are additional parameters and scoring criteria which aid in determining support status. I have shown only the three major ones.

Table 6.

BENEFICIAL USE SUPPORT STATUS
OF 303(d) LISTED WATERS IN THE CLARK FORK WATERSHED

CLARK FORK	Full Support	Needs Verification	Not Full Support	Pollutant(s) of Concern (1996 list)
Johnson Creek Headwaters to Clark Fork		X 1995 BURP	X 1998 303(d) list	sediment, flow, habitat alteration
Lightning Creek Quartz Creek to Clark Fork	X 1998 303(d) list		X 1994 BURP	sediment, flow, habitat alteration
East Fork Lightning Creek Headwaters to Lightning Cr.			X 1994 BURP; X 1998 303(d) list	sediment, flow, habitat alteration
Porcupine Creek Headwaters to Lightning Cr.	X 1995 BURP; X 1998 303(d) list			sediment, flow, habitat alteration
Rattle Creek Headwaters to Lightning Cr.	X 1995 BURP; X 1998 303(d) list			sediment, flow, habitat alteration
Spring Creek Headwaters to Lightning Cr.	X 1998 303(d) list	X 1996 BURP		sediment
Twin Creek Headwaters to Clark Fork	X 1995 BURP; X 1998 303(d) list			nutrients, sediment
Wellington Creek Falls to Lightning Cr.		X 1995 BURP	X 1998 303(d) list	sediment, flow

Clark Fork River (from Idaho-Montana border to Pend Oreille Lake) was on the 1996 list for metals pollution. In 1998 the listing was revised to: flow alteration, habitat alteration, and total dissolved gas.

Table 6. Continued **BENEFICIAL USE SUPPORT STATUS OF 303(d) LISTED WATERS IN THE PEND OREILLE WATERSHED**

PEND OREILLE	Full Support	Needs Verification	Not Full Support	Pollutant(s) of Concern (1996 list)
Caribou Creek Headwaters to Pack River	x 1998 BURP	X 1995 BURP	X 1998 303(d) list	sediment
Cocolalla Creek Headwtrs to Cocolalla Lk.		X 1994 BURP	X 1998 303(d) list	sediment, thermal modification
Cocolalla Creek Headwaters to Pend Oreille Lake		X 1995 BURP	X 1998 303(d) list	sediment, thermal modification
Fish Creek Headwtrs to Cocolalla Cr.	X 1994 BURP, 1999 bacteria rechecked-ok		X 1998 303(d) list due to high bacteria	sediment, thermal modification
Gold Creek Headwaters to Pend Oreille Lake	X 1998 BURP	X 1994 BURP		sediment, thermal modification, pathogens
Granite Creek Headwaters to Pend Oreille Lake	X 1994 BURP		X 1998 303(d) list	sediment
Grouse Creek	X 1994 BURP			sediment
North Fork Grouse Cr.			X 1996 BURP; X 1998 303(d) list	sediment
Hoodoo Creek Headwtrs to Pend Oreille River			X 1995, □96,□98 BURP; X 1998 303(d) list	sediment, thermal modification
Pack River Hwy. 95 to Pend Oreille Lake	X 1998 303(d) list - (MISTAKE!)	X 1997 BURP (large river)	X 1994 BURP (wadable); will be on final 1998 303(d) list	nutrients, sediment, dissolved oxygen, habitat alterations, pathogens, pesticides
Trestle Creek Pend Oreille Lake and River Drainage	X 1994 BURP			threatened

Large Rivers and Lakes:
Pend Oreille Lake (threatened) on both '96 and '98 303(d) list. **Pend Oreille River** (Pend Oreille Lake to Washington border) listed for sediment, thermal modification and flow in 1996, and sediment, temperature, flow alteration and total dissolved gas in 1998. **Cocolalla Lake** listed for "pollutants", nutrients, and dissolved oxygen in 1996 and nutrients and dissolved oxygen in 1998. Note all support status calls were made using the 1996 WBAG. The 1998 303(d) list referred to is the DRAFT list.

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